

What is claimed is:

1. A method comprising:

5 puncturing, with a piercing element of a hollow connector, an opening of a membrane that encloses the hollow connector in a gas that is essentially sterile, wherein puncturing the opening of the membrane generates a laminar flow of the gas along sides of the opening; and

transferring the fluids, through the opening with the piercing element of the hollow connector.

10

2. The method of claim 1, further comprising attaching a container, that stores the fluids, to an end of the hollow container that is opposite of an end that includes the piercing element.

15 3. The method of claim 1, further comprising opening a latch between the hollow connector and the first container.

4. The method of claim 1, wherein puncturing the opening of the membrane comprises puncturing the opening in a partial slit or cut in the membrane that does not 20 penetrate completely through the membrane.

25 5. A method comprising:
enclosing a connector within a membrane housing;
inserting a gas that is essentially sterile into the membrane housing at a gas pressure such that after a piercing element of the connector pierces an opening in the membrane housing, a laminar flow of the gas is generated along sides of the opening; and

sealing the membrane housing from an environment external to the membrane housing.

6. The method of claim 5, wherein inserting the gas into the membrane housing at
5 the gas pressure comprises inserting the gas into the membrane housing at a gas pressure
of greater than about 5 millibars.

7. The method of claim 5, further comprising creating a partial slit or cut in an inner
lining of the membrane housing that does not penetrate an outer lining of the membrane
10 housing.

10. The method of claim 9, wherein creating the partial slit or cut in the inner lining
of the membrane housing comprises creating the partial slit or cut in the inner lining of
the membrane housing at a location in the membrane housing where the piercing element
15 of the connector punctures the opening.

11. An apparatus comprising:

a hollow connector having an interior wall defining a chamber for the passageway
of fluids, wherein the hollow connector comprises a distal end and a proximal end,
20 wherein the distal end is configured to engage a container and the proximal end has an
aperture there through for the egress of the fluids from the container; and

a membrane having an interior surface defining a chamber for housing the hollow
connector with a gas that is essentially sterile, wherein the gas has a pressure of greater
than about 1 atm inside the membrane.

25

12. The apparatus of claim 11, wherein the gas comprises oxygen, nitrogen, argon, or
a combination thereof.

13. The apparatus of claim 11, wherein the gas is more than about 95% sterile.

14. The apparatus of claim 11, wherein the gas has a pressure of greater than about 1.05 atm inside the membrane.

5

15. The apparatus of claim 11, wherein the gas has a pressure of greater than about 1.1 atm inside the membrane.

16. The apparatus of claim 11, wherein the membrane has a thickness of less than 10 about 200 microns.

17. The apparatus of claim 11, wherein the membrane has a thickness of between about 15 microns to about 200 microns.

15 18. The apparatus of claim 11, wherein the interior surface of the membrane has a partial slit or cut that does not penetrate completely through the membrane.

19. The apparatus of claim 11, further comprising a container that is connected to the distal end of the hollow connector.

20

20. The apparatus of claim 19, further comprising a latch coupled between the container and the hollow connector.

21. The apparatus of claim 11, wherein the hollow connector is a needle or a cannula.

25

22. The apparatus of claim 11, wherein the container is a flexible bag.

23. The apparatus of claim 11, wherein the hollow connector is configured to engage the container via a threaded connector.

24. The apparatus of claim 11, wherein the distal end of the hollow connector is 5 further configured to engage a second container, wherein the second container is to receive, through the connector, the fluids from the container.

25. The apparatus of claim 11, wherein the fluids comprise bodily fluids.

10 26. The apparatus of claim 25, wherein the bodily fluids comprise blood.

27. The apparatus of claim 25, wherein the bodily fluids comprise at least one of macrophages, B lymphocytes, cytotoxic T lymphocytes, plasma cells, helper cells, B lymphocytes, antibodies, erythrocytes, leukocytes, red blood cells, white blood cells, and 15 platelets.

28. The apparatus of claim 25, wherein the bodily fluids comprise arterial blood, banked blood, cord blood, defibrinated blood, laky blood, oxalated blood, or whole blood.

20

29. A system comprising:

a first delivery assembly comprising:

a first container having an opening, the first container to hold a liquid;

a hollow connector having an interior wall defining a chamber for a

25 passageway for the liquid, wherein the hollow connector comprises a distal end and a proximal end, wherein the distal end is configured to engage the first container and the

proximal end has an aperture there through for the egress of the liquid from the container; and

a membrane having an interior surface defining a chamber for housing the hollow connector with a gas that is essentially sterile, wherein the gas has a pressure of
5 greater than about 1 atm inside the membrane.

30. The system of claim 29 further comprising a second delivery assembly, wherein the second delivery assembly comprises:

a different connector configured to engage the hollow connector; and
10 a second container to receive, through the second connector, the liquid from the first container through the aperture.

31. The system of claim 29, wherein the gas comprises oxygen, nitrogen, argon, or a combination thereof.

15 32. The system of claim 29, wherein the gas is more than about 95% sterile.

33. The system of claim 29, wherein the gas has a pressure of greater than about 1.05 atm inside the membrane.

20 34. The system of claim 29, wherein the gas has a pressure of greater than about 1.1 atm inside the membrane.

35. The system of claim 29, wherein the membrane has a thickness of less than about
25 200 microns.

36. The system of claim 29, wherein the membrane has a thickness of between about 15 microns to about 200 microns.

37. The system of claim 29, wherein the interior surface of the membrane has a 5 partial slit or cut that does not penetrate completely through the membrane.

38. The system of claim 29, further comprising a latch coupled between the first container and the hollow connector.

10 39. The system of claim 29, wherein the hollow connector is a needle or a cannula.

40. The system of claim 29, wherein the first container is a flexible bag.

41. The system of claim 29, wherein the hollow connector is configured to engage the 15 first container via a threaded connector.

42. The system of claim 29, wherein the liquid comprise bodily fluids.

43. The system of claim 42, wherein the bodily fluids comprise blood.

20

44. The system of claim 42, wherein the bodily fluids comprise at least one of macrophages, B lymphocytes, cytotoxic T lymphocytes, plasma cells, helper cells, B lymphocytes, antibodies, erythrocytes, leukocytes, red blood cells, white blood cells, and platelets.

25

45. The system of claim 42, wherein the bodily fluids comprise arterial blood, banked blood, cord blood, defibrinated blood, laky blood, oxalated blood, or whole blood.

46. A kit comprising:

a delivery assembly comprising a hollow connector having an interior wall defining a chamber for the passageway of fluids, wherein the hollow connector comprises a distal end and a proximal end, wherein the distal end is configured to engage a container and the proximal end has an aperture there through for the egress of the fluids from the container, the delivery assembly comprising a membrane having an interior surface defining a chamber for housing the hollow connector with a gas that is essentially sterile, wherein the gas has a pressure of greater than about 1 atm inside the membrane.

5 packaging material; and

10 instructions or indicia located on the packaging material or inside the packaging material.

47. The kit of claim 46, further comprising a fluid located in the container.

15 48. The kit of claim 46, wherein the interior surface of the membrane has a partial slit or cut that does not penetrate completely through the membrane.

49. The kit of claim 46, further comprising a latch coupled between the container and the hollow connector.

20

25